

ENERGY TRANSFER DYES WITH ENHANCED FLUORESCENCE

Inventors: Linda G. Lee, Sandra Spurgeon and Barnett Roseblum

ABSTRACT

Novel linkers for linking a donor dye to an acceptor dye in an energy transfer fluorescent dye are provided. These linkers facilitate the efficient transfer of energy between a donor and acceptor dye in an energy transfer dye. One of these linkers for linking a donor dye to an acceptor dye in an energy transfer fluorescent dye has the general structure $R_{21}Z_1C(O)R_{22}R_{23}$ where R_{21} is a C_{1-3} alkyl attached to the donor dye, $C(O)$ is a carbonyl group, Z_1 is either NH, sulfur or oxygen, R_{22} is a substituent which includes an alkene, diene, alkyne, a five and six membered ring having at least one unsaturated bond or a fused ring structure which is attached to the carbonyl carbon, and R_{23} includes a functional group which attaches the linker to the acceptor dye.